

AUDIO 
POLE

CLIMAX 3200 DSP

PROFESIONNAL AMPLIFIER



USER MANUAL

Important Safety Instructions



This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.



This symbol, wherever used, alerts you to important operating and maintenance instructions.

POWER SUPPLY

Ensure that the insource voltage (AC outlet) matches the voltage rating of the product. Failure to do so could result in damage to the product and possibly the user. Unplug the product before electrical storms occur and when unused for long periods of time to reduce the risk of electric shock or fire.

EXTERNAL CONNECTION

Always use proper ready-made insulated mains cabling (power cord). Failure to do so could result in shock/death or fire. If in doubt, seek advice from a registered electrician.

DO NOT REMOVE ANY COVERS

Within the product are areas where high voltages may present. To reduce the risk of electric shock do not remove any covers unless the AC mains power cord is removed. Covers should be removed by qualified service personnel only. No user serviceable parts inside.

FUSE

To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the ACD outlet.

PROTECTIVE GROUND

Before turning the unit on, make sure that it is connected to Ground. This is to prevent the risk of electric shock. Never cut internal or external Ground wires. Like wise, never remove Ground wiring from the Protective Ground Terminal.

OPERATING SAFETY INSTRUCTIONS

Read these instructions. Follow all instructions. Keep these instructions. Do not discard. Heed all warnings. Only use attachments/accessories specified by the manufacturer.

POWER CORD AND PLUG

Do not tamper with the power cord or plug. These are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk o electric shock. Do not place heavy objects on the power cord. This could cause electric shock or fire?

SERVICING

Refer all servicing to qualified service personnel only. Do not perform any servicing then those instructions contained within this User's Manual

DISPOSAL



This symbol indicates that the disposal of this product is submitted to local regulations. Please contact your local dealer.

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1

Introduction

Thank you for purchasing the Audiodole CLIMAX 3200 DSP. This class-H DSP amplifier is designed for high power touring or fixed installations. The device delivers 2 x 1600 W RMS /4 Ohms and 3200 W RMS /8 Ohms in "Bridge" mode. Equipped with a 24-bit DSP, the amplifier handles the functions of limitation, equalization, filtering, and delay necessary for the use of speaker systems.

In addition to his remote control capabilities the CLIMAX 3200 DSP has quick access buttons on the front panel allowing immediate modification of specific settings. A large backlit LCD screen provides real time information of the amplifier status. It is associated with LEDs displaying the dynamic settings of amplification.

A USB slot on the front panel enables a direct connection on to a PC for programming with a graphical display of parameters. On the real panel the device is equipped with RS-485 interface of RJ45 connectors for networking with remote control up to 250 amplifiers.

2

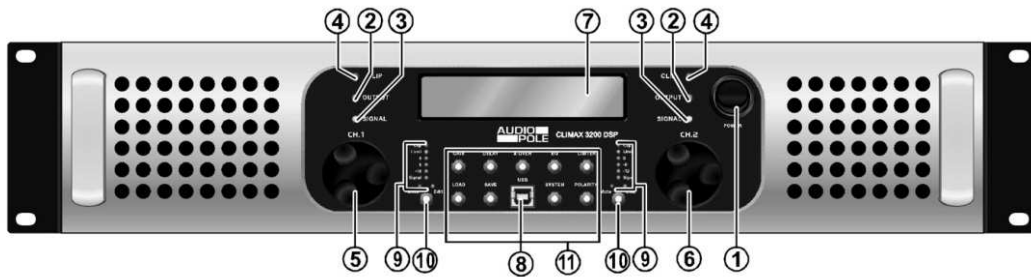
Main Features

- 2 x 1600 W /4 Ohms, 2 x 915 W /8 Ohms
- 3200 W /8 Ohms (BRIDGE mode)
- Class-H circuitry
- DSP : Delay, X-Over, EQ, Limiter, Polarity.
- 3 modes: STEREO - BRIDGE - PARALLEL
- XLR balanced inputs
- SPEAKON outputs
- DSP Programming via USB slot
- RS-485 interface : remote control up to 250 amplifiers
- 2U
- 11 kg

3

Controls

A - Front panel



1- POWER

Power ON/OFF switch.

By default, when the device is switched on for the first time, both channels activate in MUTE mode. To change, refer to page 11, paragraph 3.

2 - OUTPUT

The LED brightness is proportional to the output current. It becomes visible when the current exceeds 1A.

3 - SIG

The green LED is illuminated when the voltage level at the output reaches approx. 4 V. This value corresponds to a power of 4 W at 4 Ohms. The red LED is illuminated when the device is in Protect Mode (Mute).

4 - SAT

The red LEDs are illuminated if any section of the power amplifier's output are within 3dB of clipping. However, Leds blinking are acceptable. Constantly lit, it is advisable to reduce the amplifier volume.

5 & 6 - Volume controls and DSP settings

These buttons are coders wheels and push buttons. They control the volume and the DSP settings.

Volume control:

The input level can be adjusted by rotating the CHA and CHB knob.

Parameters control:

After selecting a function(11), press to navigate through the LCD screen, turn the button to modify a setting and confirm by pressing it once again.

7 - LCD screen

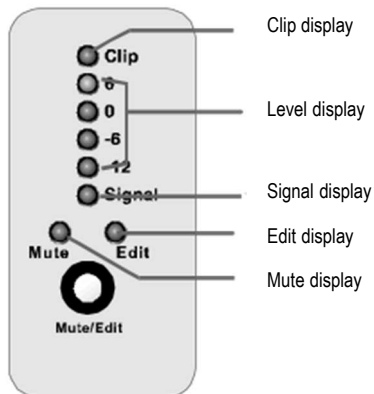
The LCD screen displays current and important amplifier information (Gain, Temperature, Mode...).

8 - USB slot

DSP programming via USB slot.

3 Controls

9 - LED Informations



10 - EDIT / MUTE

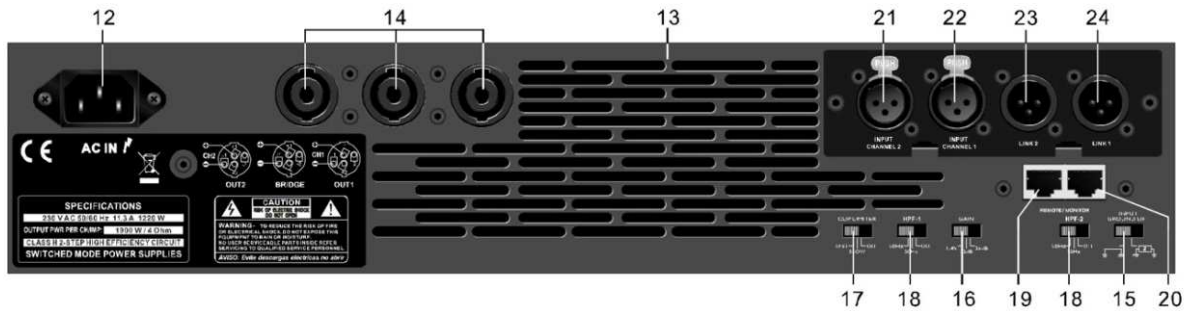
Pressing the button activates the channel in MUTE mode and turns the red LED on. Holding the buttons for more than 3 seconds activates the channel in Edit mode allowing the parameter setting.

11 - DSP Functions

- X-OVER : Crossover setting
- EQ : EQ setting
- LIMITER : Limiter setting
- POLARITY : Polarity (phase) setting
- GAIN : Gain setting
- DELAY : Delay setting
- LOAD : Load store settings
- SAVE : Save the current settings
- SYSTEM : System Menu

3 Controls

B - Back panel



12 - POWER CONNECTOR

CEI power socket. Before any connections make sure that the power cable is not damaged. The connection to the mains supply must have an earth connection. The mains voltage supplied must conform with the electrical characteristics of the appliance.

13 - COOLING FAN VENT

Do not obstruct the air vents of the amplifier cooling. Any impediment to the free movement of air in the amplifier may cause a failure not covered by the warranty.

14 - SPEAKER OUTPUTS

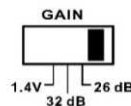
SPEAKON outputs.

15 - GROUND LIFT

Switch to right to disconnect the chassis from ground if necessary to eliminate hum caused by ground loops.

16 - GAIN SELECTOR

26 dB and 32 dB voltage gain setting along with 1.4V sensitivity setting.



17 - LIMITER

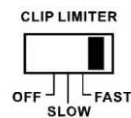
Three modes :

Right position:

Clip Limiter:

FAST

Fast Attack

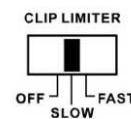


Middle position:

Clip Limiter :

SLOW

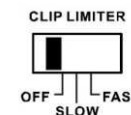
Slow Attack



Left position:

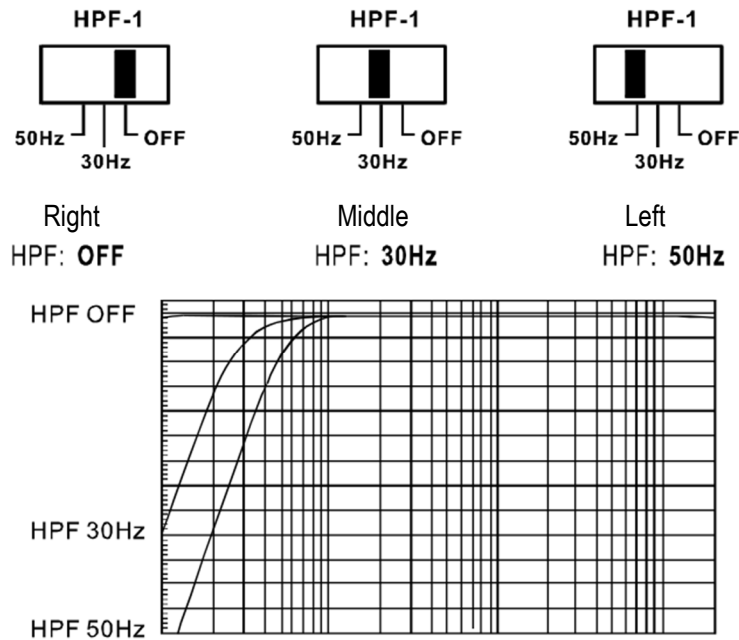
Clip Limiter :

OFF



3 Controls

18 - HPF 1, HPF 2 : Channel 1 & 2 High Pass Filter



Low frequency response curves

19 - PC INPUT CONNECTOR

The amplifier can be controlled and programmed with a PC via a RS-485 interface and the dedicated software. The control distance works up to 1000 m. DSP controls equalizer, crossover, delay, opposite phase, limiter, stereo, bridge, mono... All changes made will be apply in real time (see page 12).

20 - RJ45 connector to an other CLIMAX 3200 DSP

Up to 250 amplifiers can be simultaneously controlled when they are linked together.

21-22 - INPUTS

XLR balanced female inputs

23-24 - Link XLR

XLR balanced male inputs for signal redistribution to others amplifiers

4

Parameters and DSP Settings

Parameter setting

Pressing the « Mute/Edit » key for more than three seconds activates the edit mode.

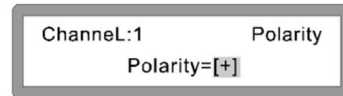
Green display of the relevant channel lights up, and relevant channel turns into the parameter setting (channel default setting is « input mute »).

Short press a function key (11) to activate the relevant parameter setting menu. Turn coder for parameter setting, and short press the coder switch (5) or (6) to confirm the relevant parameter.

a) POLARITY

Settings :

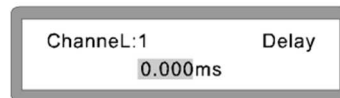
- 0° [+]
- 180° [-]



b) DELAY

From 0 to 1000 ms:

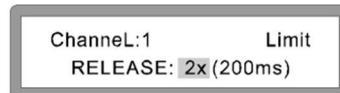
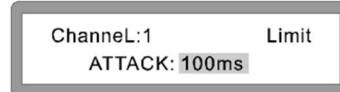
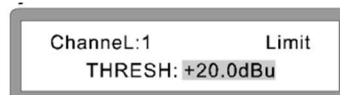
- 21 μ s steps between 0 and 10 ms,
- 84 μ s steps between 10 et 20 ms,
- 0.5 ms beyond 20 ms.



c) LIMITER

Settings :

- THRESH: -20 dBu ~ +20 dBu
- ATTACK: 0,3 ms ~ 100 ms
- RELEASE: x 2, x 4, x 6, x 8, x 16, x 32
(Multiple of Attack time)



d) X-OVER HPF & LPF

Settings :

- High Pass range: 20 Hz ~ 20 kHz
- Low Pass range: 20 Hz ~ 20 kHz
- Filter type: Linkwitz Riley, Bessel, Butterworth
- Slope: 12 dB, 18 dB, 24 dB, 48 dB



e) EQ

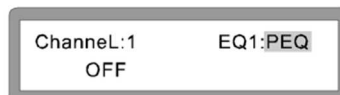
Settings (x 6 EQ1 ~ EQ6)

Parametric :

Frequency band: 20 Hz ~ 20 kHz

Gain: - 20 dB ~ + 20 dB

Bandwidth: 0.05 dB/Oct. ~ 3 dB/Oct.

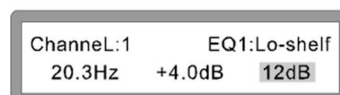


Lo Shelf, Hi-Shelf:

Frequency band: 20 Hz ~ 20 kHz

Gain: - 20 dB ~ + 20 dB

Slope: + 6 dB, + 12 dB



4 Parameters and DSP Settings

f) LOAD

Load setting configuration previously saved in a memory unit.

Select and Load
1. VIP-025

Waiting
Loading.....

Loading Successful

g) SAVE

Save up to 30 different setting configurations.

Select store Place
1. █

Input User Group Name
A

Input User Group Name
VIP-025

Storing Successful

To erase a configuration, press SAVE more than 3seconds :

Select store Place
1. VIP-025

Erase Successful

4 Parameters and DSP Settings

h) SYSTEM

1 - Device ID Setup

< System Setup Menu >
1. Device ID Setup

2 - Password setting

< System Setup Menu >
2. Password

3 - Power On setup (Mute)

< System Setup Menu >
3. Power On Setup

4 - LCD backlight setup

< System Setup Menu >
4. Backlight Setup

5 - Work mode Stereo / Parallel / Bridge

< System Setup Menu >
5. Work Mode

6 - Current Program

< System Setup Menu >
6. Current Program

7 - System information

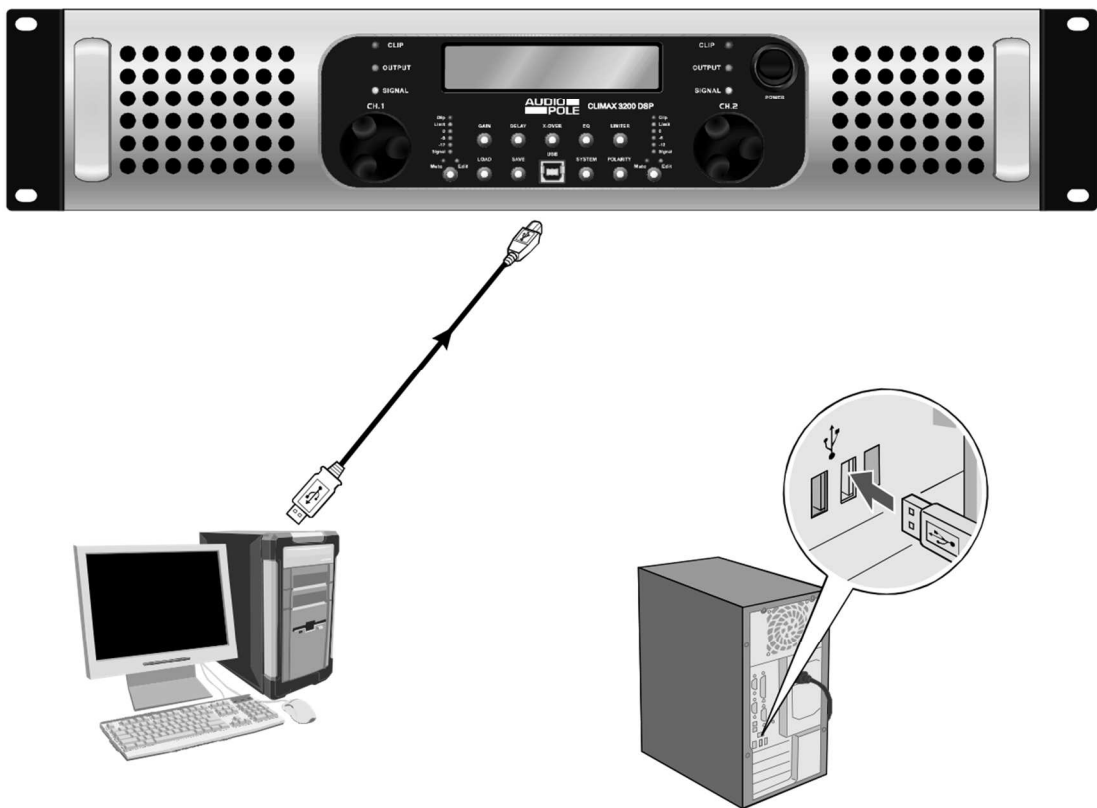
< System Setup Menu >
7. System Information

5 Remote Control

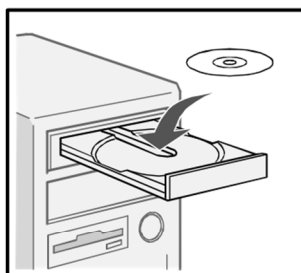
1 - PC connection

CLIMAX 3200 DSP use advanced long-distance remote control technology; it can set all the function and control by connection software. Short distance can be control by connecting through USB or RS-485 slot. RS-485 can control up to 250 amplifiers.

Example A (for a single amplifier)

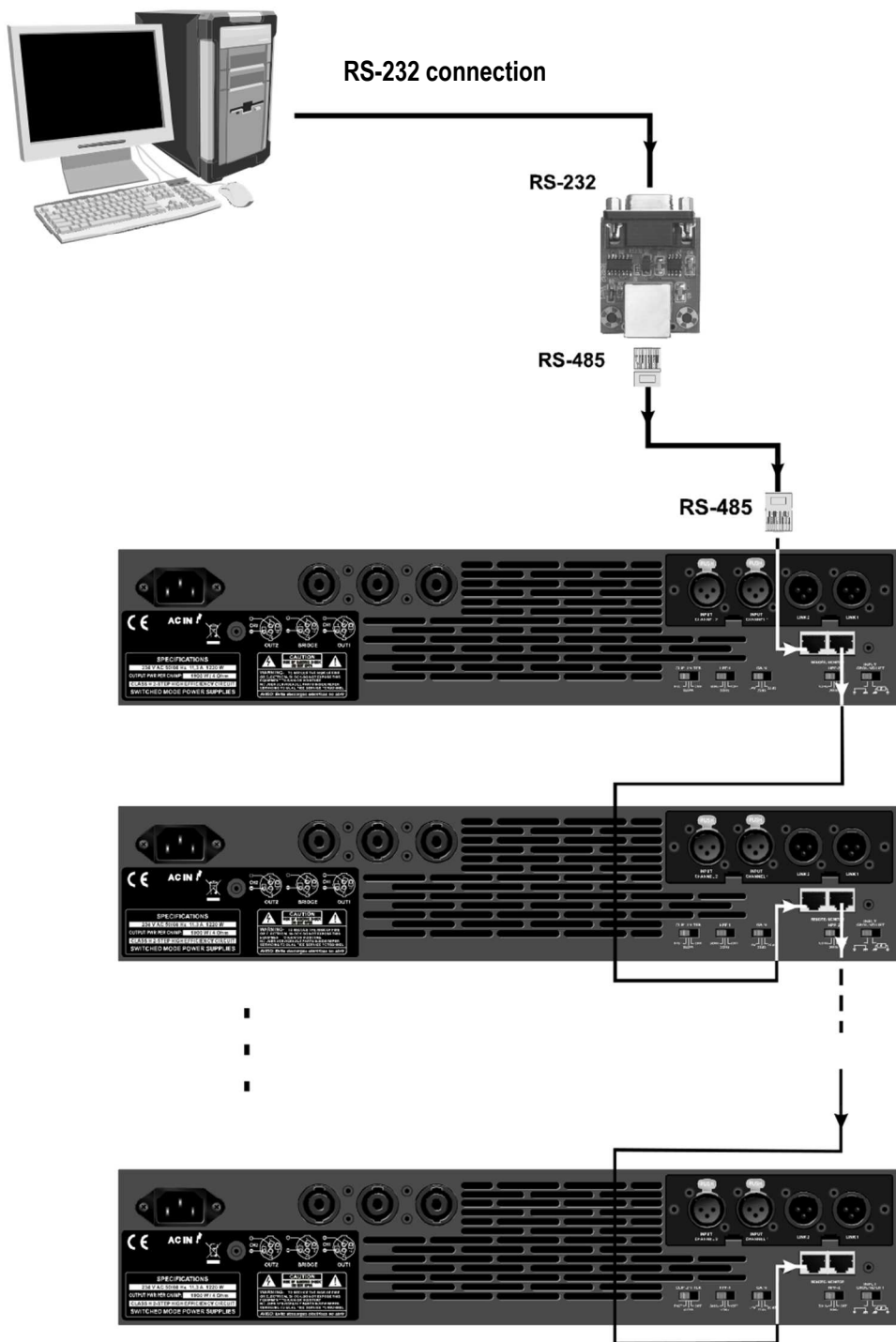


Install the driver first before connecting to the computer.



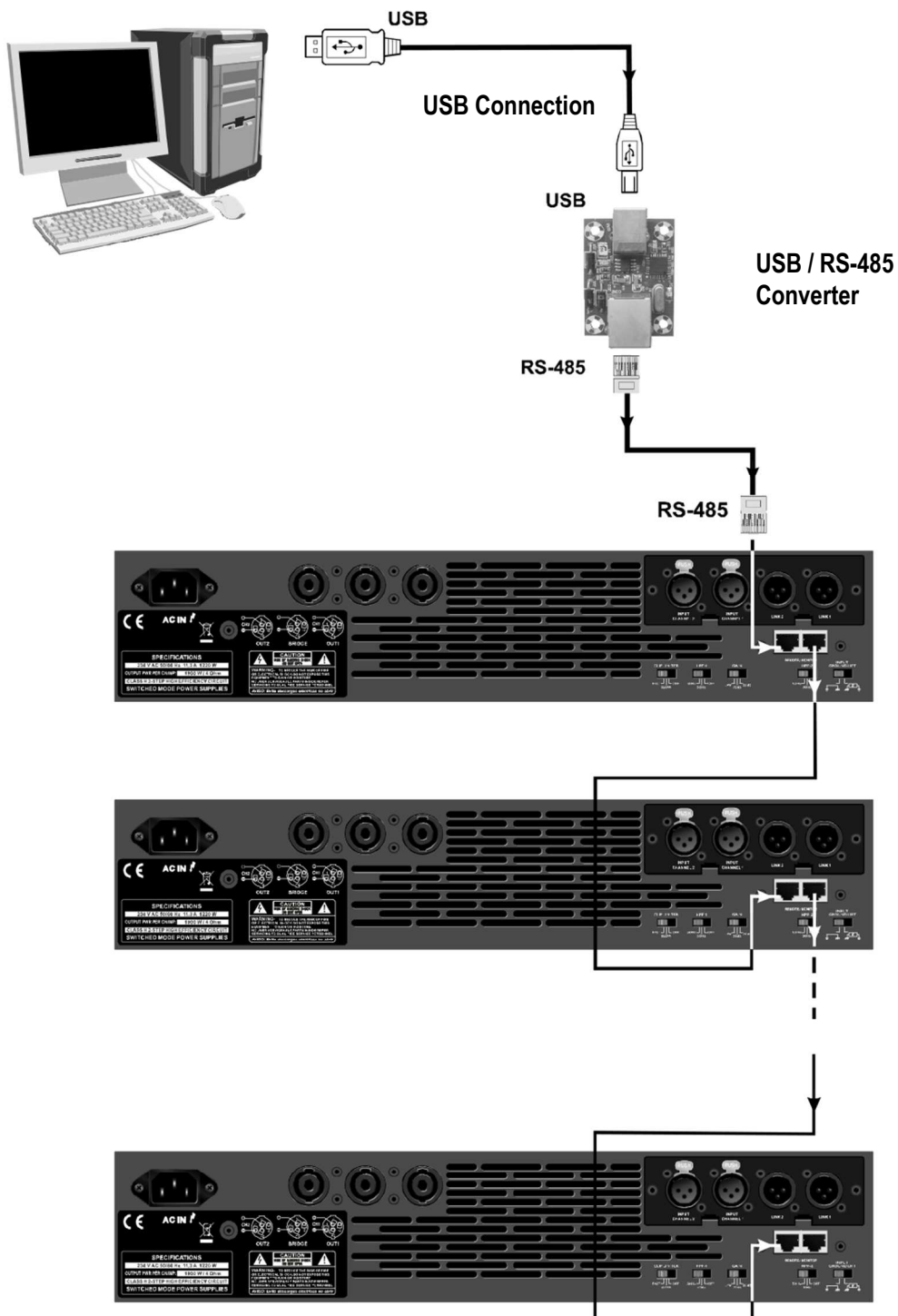
5 Remote Control

Example B (Up to 250 amplifiers)



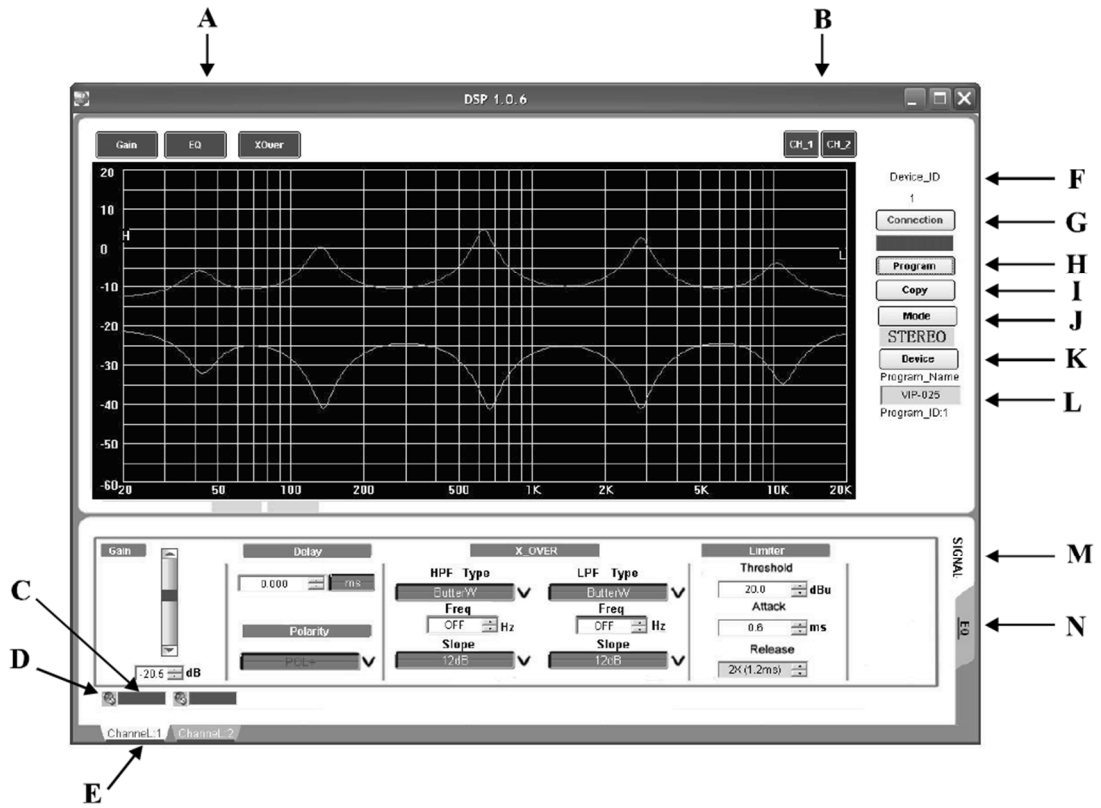
5 Remote Control

Example C (Up to 250 amplifiers)



5 Remote Control

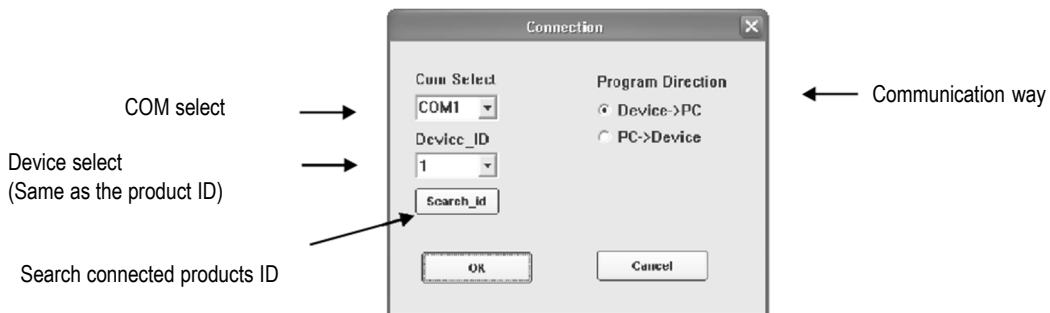
2 - Software



- A. Display option
- B. Select display channel
- C. Signal display
- D. Mute ON/OFF
- E. Channel select switching
- F. Connected products ID
- G. Connection
- H. Save / Read program
- I. Copy
- J. Mode (Stereo / Parallel / Bridge)
- K. Products selection (ID)
- L. Current using program and series number
- M. Signal edit
- N. EQ edit

Connection

After selected, display shows as below:



5 Remote Control

Program

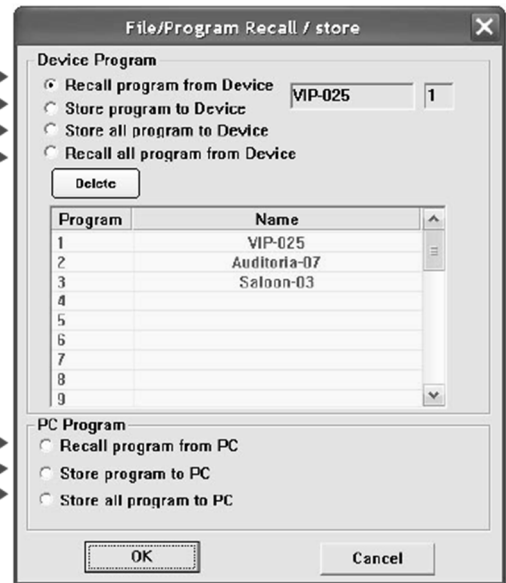
After selected, display shows as below:

Recall program from device
 Store program to device
 Store all program to device
 Recall all program from device

A →
 B →
 C →
 D →

Recall program from PC
 Store program to PC
 Store all program to PC

E →
 F →
 G →

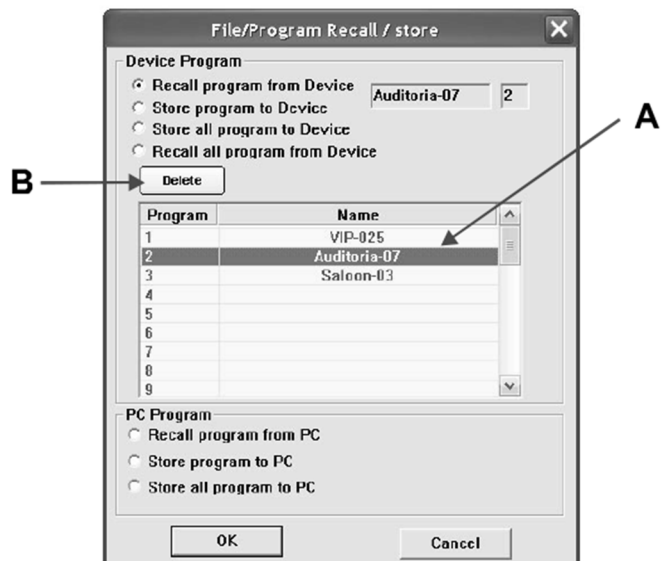


- To edit only one configuration, follow this procedure :
 - Press A, edit the configuration
 - Press B
 or
 - Press E, edit the configuration
 - Press F

By default the PC configurations are stored in the directory root 'music'. Files must be save in DIA format.

- To edit all the configurations (30 groups), follow this procedure :
 - Press D, then edit the configuration
 - Press G
 or
 - Press C

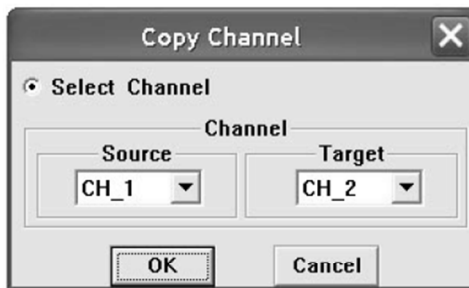
- To erase a configuration
 - Select configuration A
 - Press B



5 Remote Control

Copy

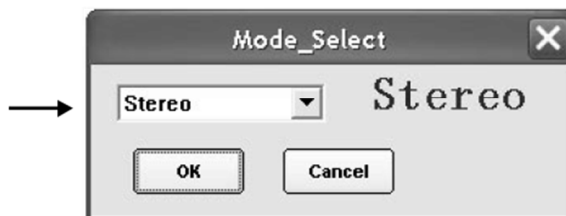
Copy function



Copy parameters from one channel to an other one

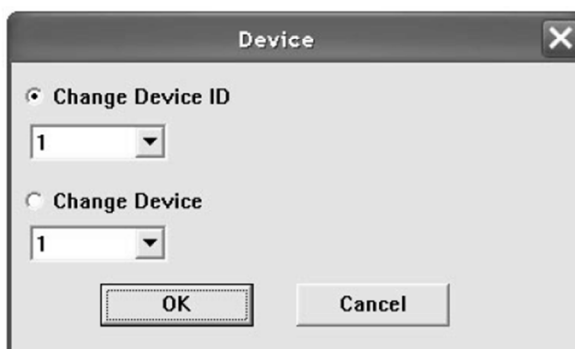
Mode

Mode selection : Stereo / Parallel / Bridge



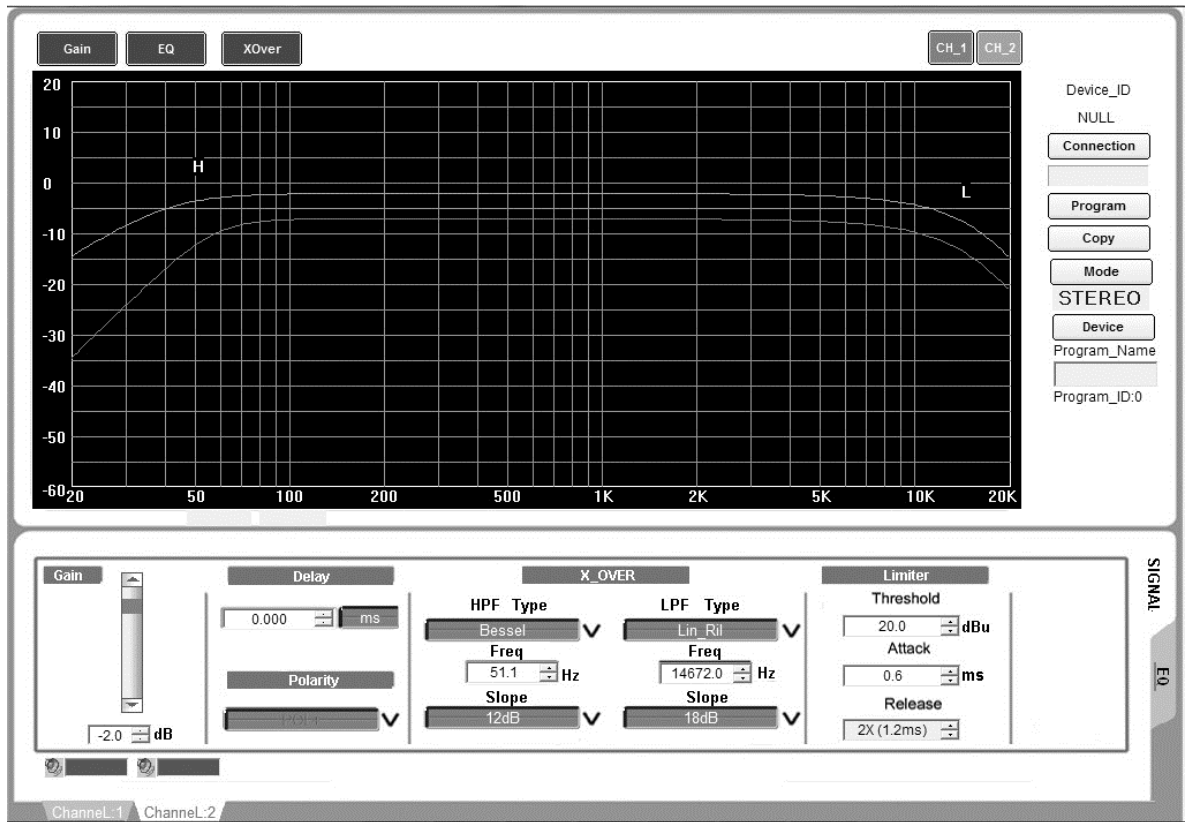
Device

Change current device ID



5 Remote Control

3 - SIGNAL Settings



a) Gain

Gain adjustment from -59 dB to +6 dB, ± 0.5 dB step.

b) Delay

Delay adjustment from 0 to 1000 ms.

Value can be displayed in Feet (Ft) or meter (M).

c) Polarity

Polarity adjustment (phase): [+] corresponds to 0° , [-] corresponds to 180° .

d) X-OVER

HPF Type, LPF Type: Linkwitz Riley, Bessel, Butterworth.

Freq: Cutoff frequency from 20 Hz to 20 kHz.

Slope: 12 dB, 18 dB, 24 dB.

e) Limiter

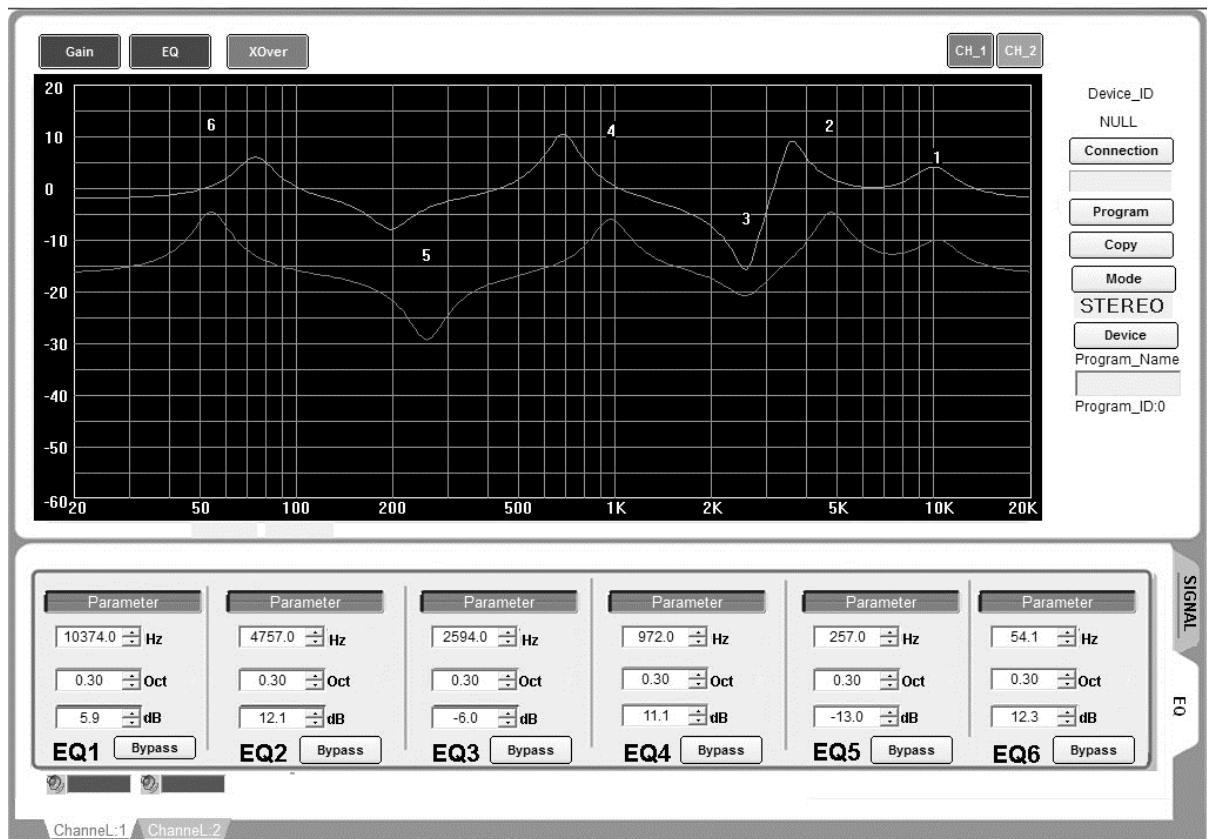
Threshold: From -20 dBu to +20 dBu.

Attack: From 0.3 ms to 100 ms.

Release: x 2, x 4, x 6, x 8, x 16, x 32.

5 Remote Control

4 - EQ settings



a) Parameter

Low-shelf or Hi-shelf.

b) Hz: Frequency from 20 Hz to 20 kHz.

c) Oct: From 0.05 to 3 (parametric filter) / Slope: +6 dB, +12 dB (Lo-shelf / Hi-shelf).

d) dB: Gain from -20 dB to +20 dB.

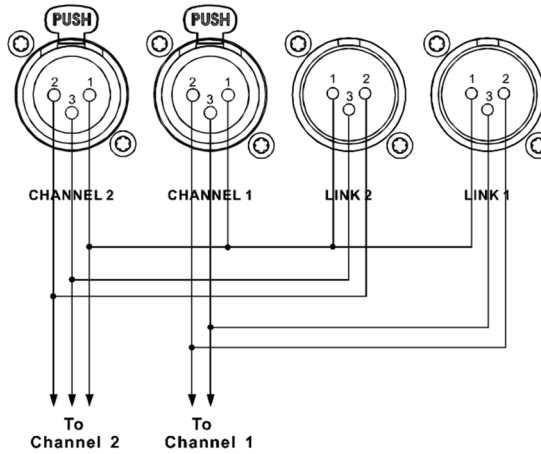
e) Bypass

EQ ON/OFF.

6 Connections

Before any connection, turn the amplifier off. Check the operating mode (Stereo / Parallel / Bridge) and adapt the connections of the inputs and outputs accordingly.

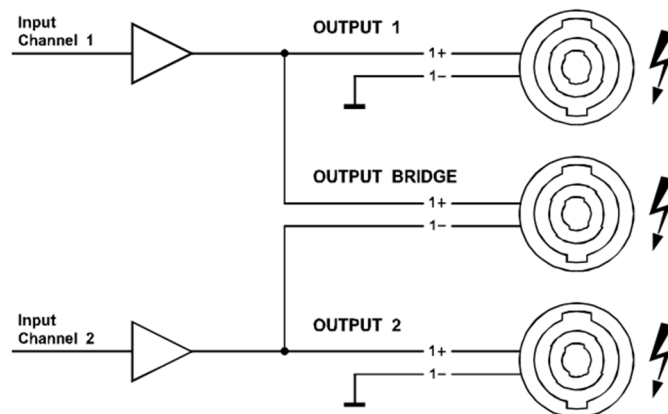
1 - Inputs



Pin 1 = Ground
 Pin 2 = Hot
 Pin 3 = Cold

2 - Outputs

SPEAKON outputs :



Channel 1 : **Pin 1+** : Channel 1 signal, **Pin 1-** : Channel 1 ground
 Bridge output : **Pin 1+** : Channel 1 signal, **Pin 1-** Channel 2 signal
 Channel 2 output : **Pin 1+** : Channel 2 signal, **Pin 1-** : Channel 2 ground

6 Connections

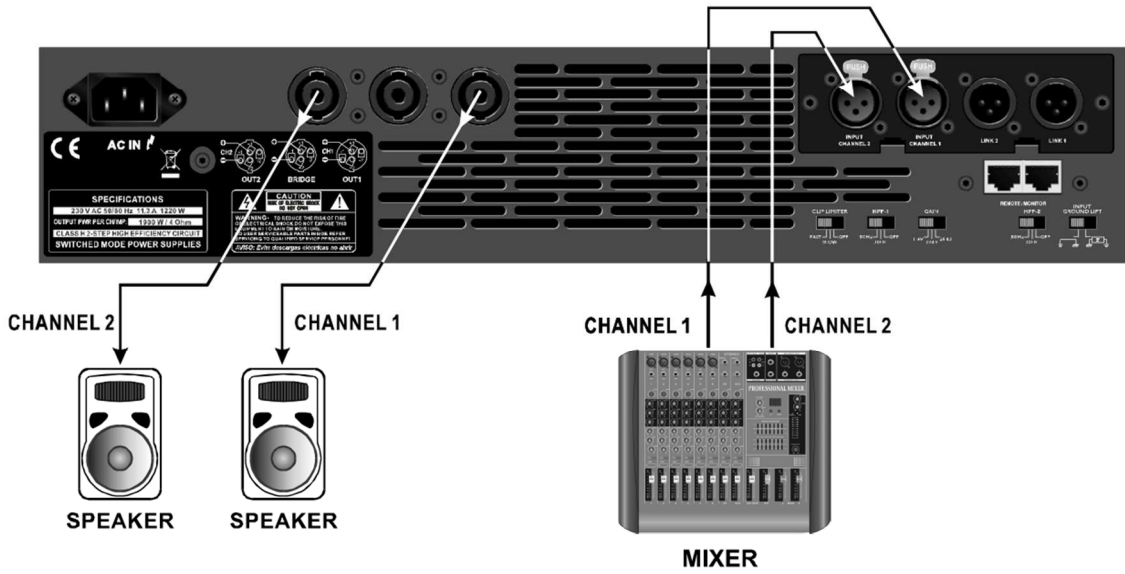
3 - Modes

2 Channels Mode (Stereo)

Gain:1	Stereo	Gain:2
0 dB		0 dB

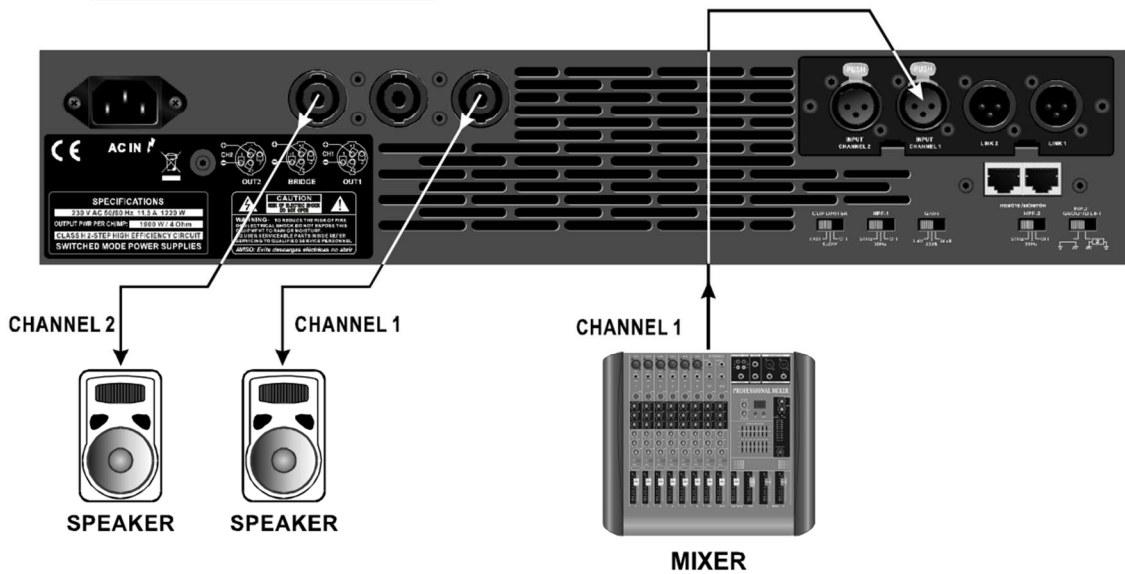
2 Channels Mode (Bypass)

Gain:1	Bypass	Gain:2
0 dB		0 dB



Parallel Mono Mode (Parallel)

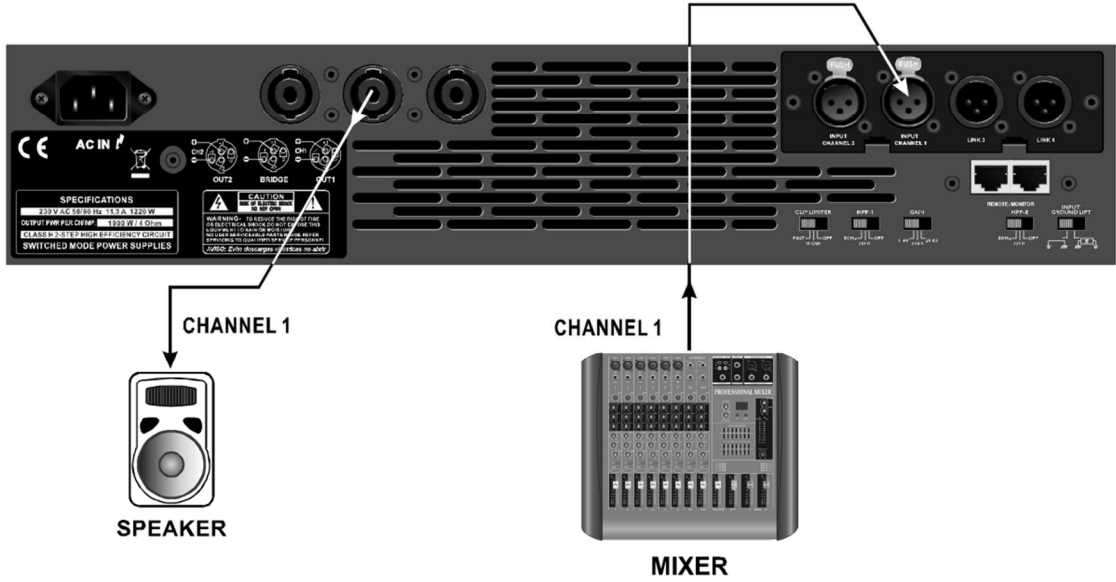
Gain:1	Parallel
0 dB	



6 Connections

Bridge Mono Mode (Bridge)

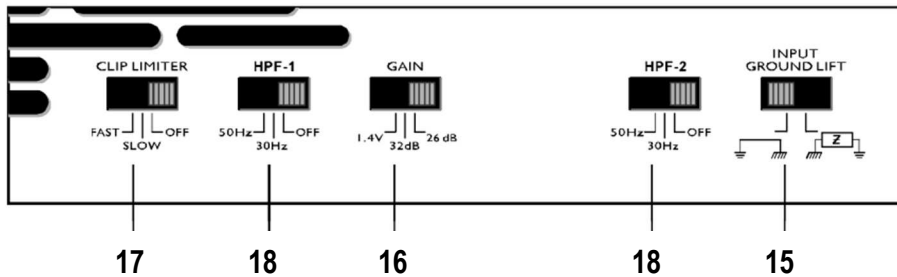
Gain:1 Bridge
0 dB



Caution ! Bridge mode impedance must not drop below 8 Ohms.

4 - Factory settings

CLIMAX 3200 DSP is configured with the following factory rear panel settings:



- 15 INPUT GROUND LIFT
- 16 GAIN: -26 dB
- 17 CLIP LIMITER: OFF
- 18 HPF-1 et HPF-2: OFF

7 Technical Specifications

Power (per channel)	4 Ohms: 1600 W 8 Ohms: 915 W 8 Ohms : 3200 W (BRIDGE mode)
Circuitry	Class-H
THD+N	< 0.01 %
S/N ratio	> 111 dB
Slew rate	40 V / μ s
Damping factor	> 400
Operating Modes	STEREO / PARALLEL / BRIDGE
Input Impedance	14 k Ω Balanced
Input Sensitivity	1.4 V, 32 dB, 26 dB
Frequency response	20 Hz ~ 20 kHz (\pm 0.2 dB)
DSP	24 bits
Controls	
Gain	-59 dB ~ +6 dB
EQ x 6	Gain: \pm 20 dB, Bandwith: 0.05/oct ~ 3/oct - Lo-Shelf, Hi-Shelf: Gain: \pm 20 dB, Slope: +6 dB, +12 dB
X-Over HPF & LPF	Range: 20 ~ 20 kHz, Lin-Ril, Bessel, Butter W., Slope: 12, 18, 24, 48 dB
Delay	0 ~ 1000 ms
Limiter	-20 dBu ~ +20 dBu, Attack: 0.3 ms ~ 100 ms, Release: 2x, 4x, 6x, 8x, 16x, 32x
Polarity	[+] , [-]
Input connectors	XLR Balanced
Output connectors	Speakon
Protections	Inrush-current, temperature, output DC, power transistor, output over current, mains fuses
Indicators	LEDs for Signal, Clip, Output current and faults. LED-meter for Input signal, Limiter and Clip. LEDs for Mute & Edit
Cooling	Front to back via 3 variable-speed fans
Power supply	~ 220-230 V, 50/60 Hz
Dimensions (L x D x H)	482 x 389 x 88 mm
Net weight	11 kg

9 Warranty

This device is warranted parts and labor against any manufacturing defects for a period of two years from the date of purchase by the first user.

Conditions

1. The unit has been installed and implemented by observing the safety instructions in this operating manual.
2. The device was not diverted from its destination, either voluntary or accidental, and suffered no deterioration or modification other than those described here or explicitly authorized by AUDIOPOLE.
3. All modifications or repairs have been carried out by an authorized service station.
4. The defective product must be returned with the dealer who made the sale or to an authorized service station with proof of purchase.
5. The device was properly packaged to avoid damage in transport.



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